

December 15, 2016

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

VIA ECFS

RE: ***Ex Parte Notice; In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services; WT***
Docket No. 05-265

Dear Ms. Dortch:

Evolve Cellular, Inc.¹ (“Evolve”) conducted meetings with the individuals and offices listed below on the stated dates. In each meeting Mr. Lowell Feldman, Evolve’s CEO and W. Scott McCollough, outside counsel, attended on behalf of Evolve.

Tuesday, December 13, 2016:

Meeting 1: Johanna R. Thomas, Legal Advisor to Commissioner Rosenworcel

Meeting 2: Elizabeth McIntyre, Wireless Telecommunications Bureau
Mary Clair B. York, Wireless Telecommunications Bureau
Karen Sprung, Wireless Telecommunications Bureau
Jennifer Salhus, Wireless Telecommunications Bureau
Jia-Ming Shang, Wireless Telecommunications Bureau

Meeting 3: Erin McGrath, Legal Advisor, Wireless, Public Safety and International to Commissioner O’Rielly

Meeting 4: Daudeline Meme, Legal Advisor, Wireless, International and Public Safety to Commissioner Clyburn

Meeting 5: Brendan Carr, Legal Advisor, Wireless, Public Safety, and International to Commissioner Pai

Wednesday, December 14, 2016:

Meeting 1: Gigi Sohn, Counselor, and Edward “Smitty” Smith, Legal Advisor, Wireless, Engineering and Technology, Consumer Affairs, and Incentive Auction to Chairman Wheeler

During each meeting Evolve distributed the attached presentation, and the discussion concerned the technical and other points made therein.

¹ Evolve Cellular, Inc. was previously known as Worldcall Interconnect, Inc.

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Respectfully Submitted,

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Attachment

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Ms. Marlene H. Dortch, Secretary

RE: ***Ex Parte Notice***; *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*; WT Docket No. 05-265

ATTACHMENT TO NOTICE OF *EX PARTE*



Roaming Presentation

*In the Matter of Reexamination of Roaming Obligations
of Commercial Mobile Radio Service Providers and
Other Providers of Mobile Data Services; WT Docket
No. 05-265*

December, 2016

Overview

The Commission must be candid: tell us what you really want.

The large nationwide providers are gaming the rules to prevent technological innovation, competitive entry and new business models.

The current vague rules and costly processes allow the large carriers to impose prohibitive RAN roaming terms that preclude small carriers from offering nationwide roaming as a supplement to their own primary facilities-based coverage and service.

If a user can roam on an LTE RAN the home carrier can currently supply VoLTE to that user's VoLTE client via the home carrier's IMS, VoLTE server using home carrier routing.

The Commission does not have to require the major carriers to support fully interoperable "VoLTE roaming" with visited network routing today. It should instead monitor developments and reserve the option to step in if the large carriers thwart implementation of full IMS interoperation.

There is not a competitive RAN "roaming market" so regulatory backstops are still necessary to ensure that small and rural facilities-based providers have access to RAN roaming so they can offer a viable ancillary nationwide service along with their primary facilities-based service.

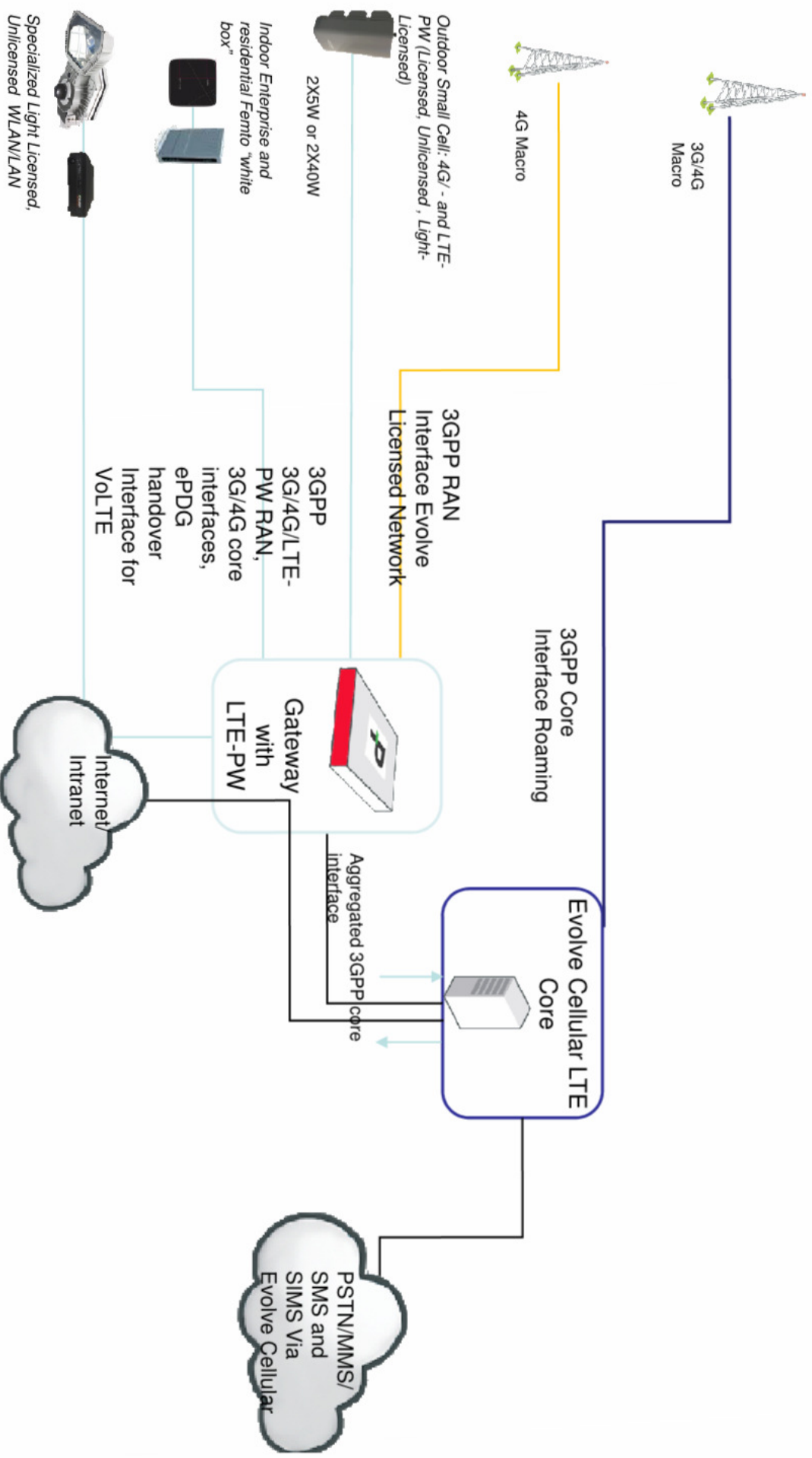
RAN roaming used for mobile broadband Internet access can remain outside of Title II if the Commission provides more substantive direction and certainty regarding desired outcomes for both roaming types and lessens the cost and risk of complaints.

Evolve Cellular is reimagining the role of a Cellular Carrier. Our solution is to extend maximum flexibility and control to our partnered customer that is already managing its own IP Network.

Our Vision

Create a “Network as a Service” model that allows the Cellular Network to be a tool for our customer’s needs.

EVOLVE Network Solution Architecture



The Commission does not have to require that major carriers support fully interoperable “VoLTE roaming” at this time

- In order to require “VoLTE roaming” the Commission would have to
 - Mandate that host carriers support full network-network IMS interoperation for roaming.
 - Require that all carriers implement local breakout with visited network routing.
- Only at that point will the visited (host) carrier be
 - Service aware and therefore able to recognize when the roamer is trying to make a “voice” call or send a text.
 - Able to directly handle the call or text through its own VoLTE or texting server.
 - Able to route the call/text across its various gateways and out to the world.
 - Able to bill the other carrier for any associated “minutes” or “SMS.”
- Evolve prefers home routing so it can retain control over IMS interoperation with other home networks for functions like VoIP, SMS/IMS and RTT. Evolve does not believe the Commission needs to mandate full IMS interoperation for roaming at this time.

The Commission must expressly state its goals and desired outcomes

- There is no clear statement of what the Commission wants to allow, limit, discourage or prohibit with regard to LTE roaming use.
 - The debate is over the extent to which RAN roaming access reduces incentives for home carriers to invest in their own networks and offer new innovative solutions as a primary service provider.
 - Incumbents argue that terms allowing smaller carriers to actually use roaming would discourage investment, even for carriers that do not seek roaming where they have coverage and fully intend to invest in improved and expanded coverage.
 - Large carriers argue that new or different business and service models (such as Evolve Cellular's) are not eligible for roaming.
 - As a result, new competitors must mimic large carriers' outdated macrocell approach and business models and suffer severe competitive disadvantage, or litigate their roaming rights.
 - The Commission should discourage routine "permanent roaming," but encourage roaming that is ancillary to a home carrier's primary service and it must allow innovation and new business models.

The Commission must expressly state its goals and desired outcomes

- Regardless of the standard, are terms that preclude reasonable use by small carriers consistent with the Commission's goals?
 - From a business perspective what really matters is the substantive outcome; “standards,” “factors” and comparative metrics are meaningless if the result still leads to arrangements small carriers cannot use to offer a nationwide service.
- How much roaming is too much?
 - Tell us and we will not exceed that amount.
- Should new technology deployment methods be denied roaming even if they are 100% compatible with current networks?
 - If the Commission wants to pick and chose preferred technologies and methods please say so and we will try to comply. If unlicensed and light licensed networks are not eligible for roaming access, tell us and we will stop trying to expand facilities-based coverage by blending licensed and unlicensed uses.
- Who controls the swamp?
 - By refusing to make clear roaming policy with expressly stated desired outcomes the Commission has allowed the dominant providers to limit small carrier investment in advanced networks and prevent competition and new entry through adhesive contract terms that deny roaming to any business model that threatens their market power.

There is no working and competitive RAN “roaming” market

- There is not a working competitive market for nationwide RAN roaming; to the extent there is a “market” it is entirely dysfunctional.
- There are four providers with extensive footprints. AT&T and Verizon are “must-have” roaming host providers because only they have sufficient built-out coverage.
- The must-have providers do not compete with each other for roaming business.
- Sprint and T-Mobile have significant coverage gaps. A small carrier cannot use either or both of them and entirely fulfill all of the small carrier’s roaming needs.
- The “IPX hub” was forced by a major carrier to prohibit unlicensed coverage based roaming, contrary to GSMA standards and practices. It is not an adequate substitute for direct access to AT&T’s and Verizon’s networks.
- The must-have providers are hostile to roaming and claim any use is resale no matter the amount or context. They provide roaming because they must under the Commission’s rules and would immediately cease if the regulatory compulsion is removed.
- The must-have carriers game the current rules by erecting economic, technical and regulatory barriers to competitive entry.
- The must-have providers exercise overwhelming market and bargaining power.

Roaming for broadband Internet access can remain outside of Title II and subject to Rule 20.12(e)

- The Commission can maintain two standards and still satisfy its goals if it
 - *Reinforces* that there are two standards.
 - *Clarifies* the substantive meaning of each standard.
 - *States* the Commission's desired outcomes.
 - *Enforces* the current rules.
 - *Reduces* small carriers' litigation cost and risk.
- Doing these things will limit the need for complaints except in unique circumstances.

The negotiation framework can succeed if the Commission provides more guidance and does not let the 4 alligators control the swamp

- The *status quo* is not working, but the negotiation framework – with recourse to complaints – can succeed with more guidance.
- The Commission should endorse the GSM4 Standard Agreements, and be suspicious of large carriers' demands for variances.
- The Commission must send better signals to the industry so carriers can mutually negotiate terms that coalesce around the Commission's stated desired outcomes and goals.
 - What outcomes does the Commission want?
 - What could the two negotiating carriers reasonably expect to be the result if a complaint is filed?
 - How will their various negotiating proposals be assessed?
- The current “factors” do not provide enough guidance on desired outcomes and have only lead to more frustration and disagreement.
- Guidance will reduce the need for, and the cost and risk of, litigation.

Roaming for broadband Internet access can remain outside of Title II and subject to Rule 20.12(e)

WTB Declaratory Ruling

- The Commission should clarify whether it wants comparative metrics, and if so what they are.
- The *WTB Declaratory Ruling* does not address non-price terms.
- Adhesive and prohibitive terms imposed through the exercise of market power because of the absence of a working competitive “roaming market” are not reasonable under either test.

APPENDIX

3GPP/GSMA ROAMING ARRANGEMENTS

Technical arrangements for LTE roaming

GSMA IR.88, Figure 1 “LTE Roaming Architecture”

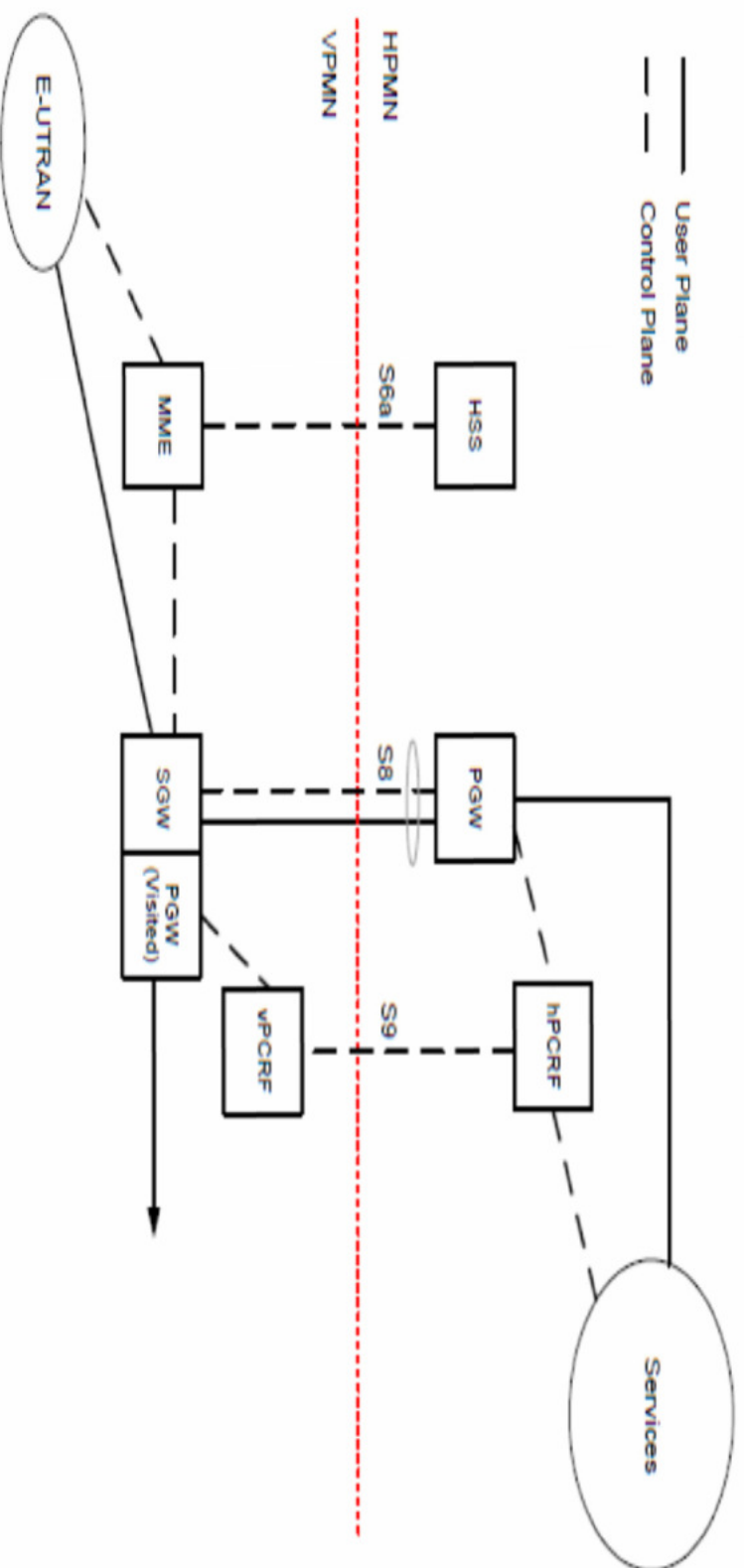


Figure 1: LTE Roaming Architecture

Technical arrangements for LTE roaming

GSMA IR.65, Figure 2-3 (full home network IMS and routing, including IP number assignment) is the current prevailing domestic LTE roaming method.

Figure 2-3 depicts a model where the UE has obtained IP connectivity from the Home Service Provider's network and the Home Service Provider provides the IMS functionality.

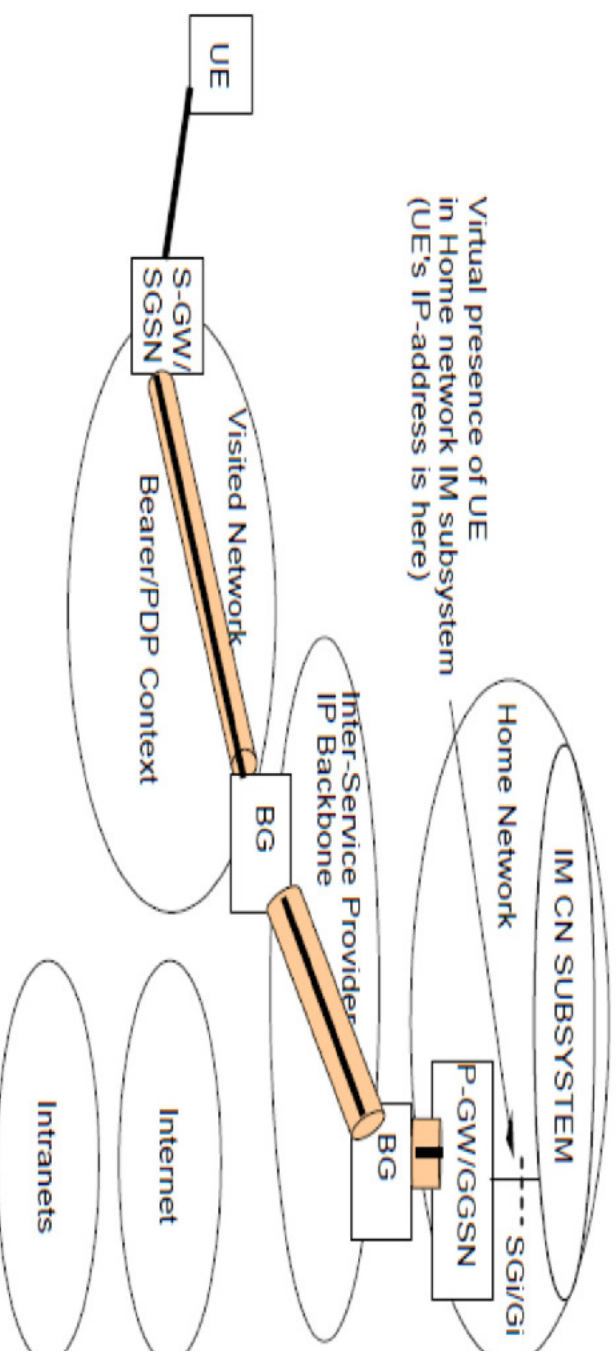


Figure 2-3: UE Accessing IM CN subsystem Services with P-GW/GGSN in the Home network

Technical arrangements for LTE roaming

GSMA IR.65, Figure 2-2: visited network supplies IP number but home network still supplies routing

Figure 2-2 depicts a model where the UE has obtained IP connectivity from the Visited Service Provider's network and the Home Service Provider provides the IMS functionality.

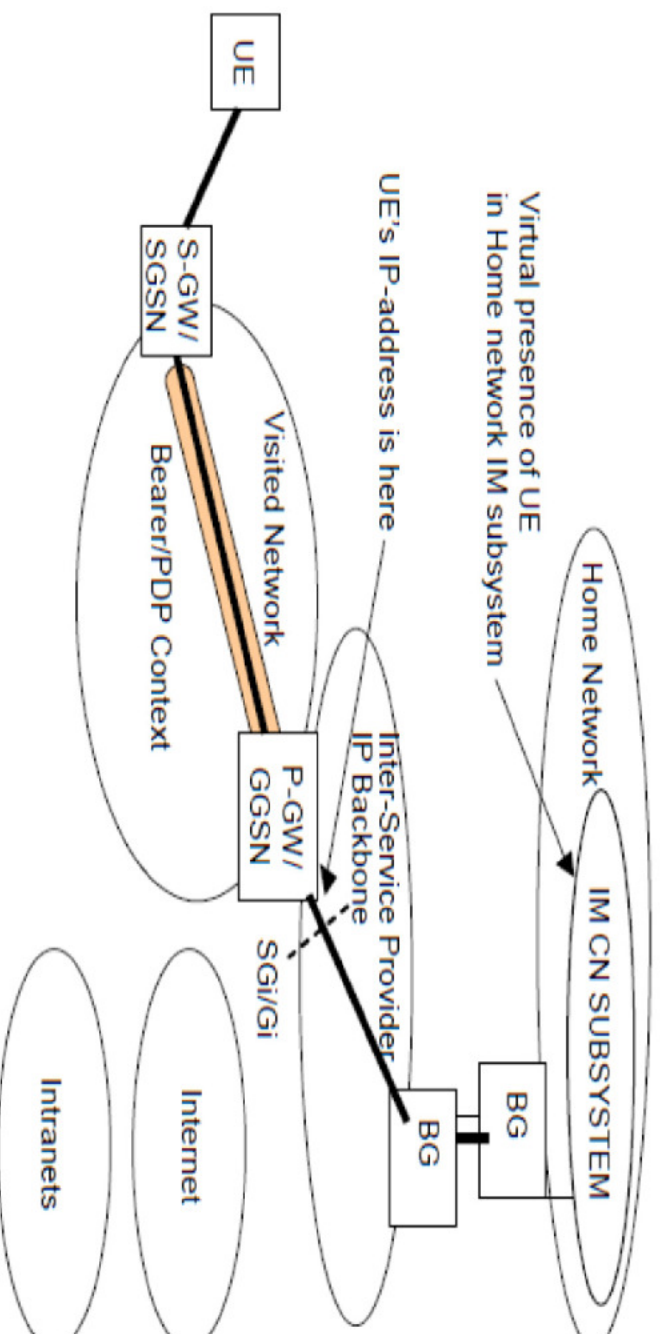


Figure 2-2: Accessing IM Subsystem Services with P-GW/GGSN in the Visited network

Technical arrangements for LTE roaming

GSMA IR.65 Figure 2-1 LBO-VR is necessary before a host network can provide “VoLTE Roaming.”

Figure 2-1 depicts a model where the User Equipment (UE) has obtained IP connectivity from the Visited Service Provider's network and the Visited Service Provider's Proxy-Call Session Control Function (P-CSCF) is used to connect the UE to the home IMS.

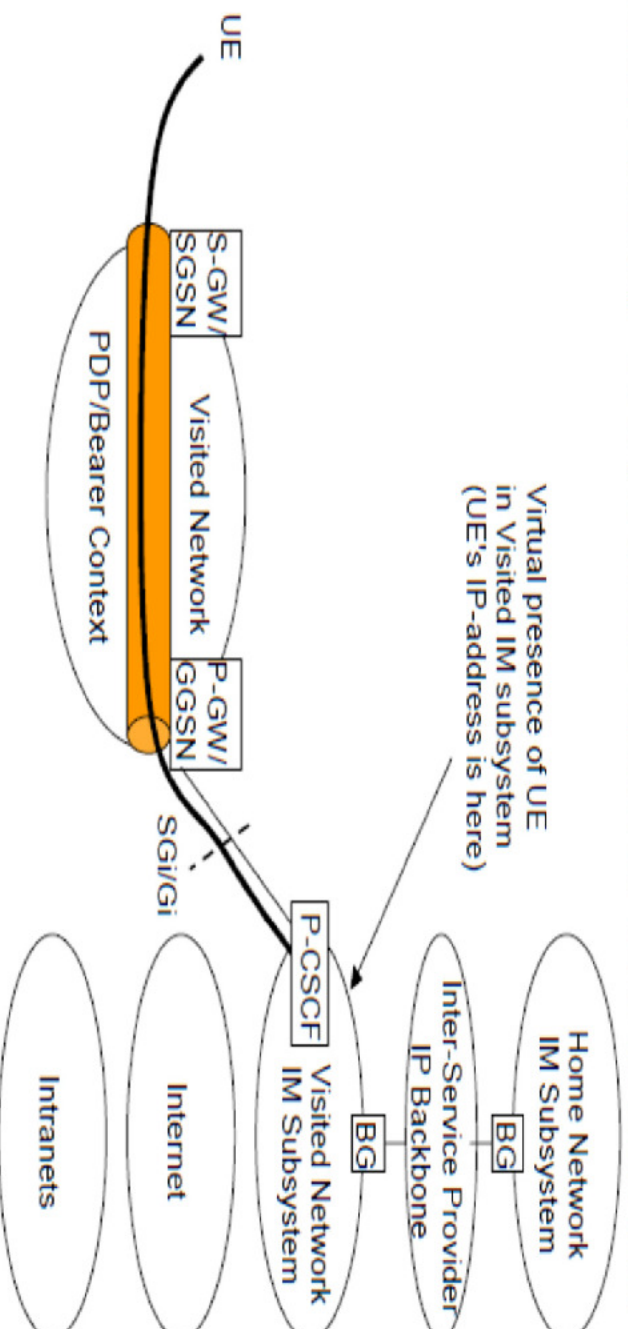


Figure 2-1: UE Accessing IM Subsystem Services with P-GW/GGSN in the Visited network via Visited Network IM subsystem